

Engaging
Metalcasters.

Building
the Future.

Delivering
Results.



AFS 2022 ANNUAL REPORT



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Dear AFS Investors & Friends,

This is an exciting time in the life of the American Foundry Society and its thousands of members. Our member foundries are exceptionally busy meeting a variety of challenges and producing the highly engineered castings needed by our modern manufacturing economy. The outlook for the future is promising.

AFS is engaging metalcasters in ways that make a tremendous difference:

- Fostering innovation
- Planning and executing casting research
- Delivering state-of-the-art training for casting excellence
- Supporting career development for young professionals and women in metalcasting
- Encouraging students to pursue careers in metalcasting
- Advocating for pro-metalcasting public policies
- Providing business networking at the local and national levels
- Delivering tangible and quantifiable member benefits

We thank you for your involvement in 2022 and look forward to your engagement with AFS in the months to come as well.

Engaging Metalcasters. Building the Future. Delivering Results.

AFS Officers



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Neenah Enterprises



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Corporation

Immediate Past



Doug Kurkul CEO American Foundry Society

CEO



Technical conferences

Operations and Profitability in Small and Midsize Foundries

Smaller foundries have unique business and technical challenges. A virtual AFS conference in January addressed those challenges.

Aluminum Casting Conference

The premier event of its kind, it was held in St. Louis in June. Keynote speaker Diran Apelian (ACRC) was among numerous expert presenters. It was followed by a foundry tour.

Foundry Industry 4.0 Conference

More than 110 attendees were on hand near Chicago for this AFS conference in July helping foundries evaluate smart manufacturing strategies and tactics.

Sand Casting Conference

Milwaukee was the setting for this popular event attended by employees from dozens of foundries in September.

Advanced Cupola Concepts Workshop

Metalcasters convened in Tell City, IN, for the 2022 Advanced Cupola Concepts Workshop.

34th EHS Conference & Safety 101 Seminar

Environmental, health and safety personnel gathered in Milwaukee for a pair of EHS-focused events in October.



Attendees listened to a presentation at the 2022 Safety 101 Seminar in Milwaukee.

Upcoming 2023 AFS **Technical Conferences**

2023 Cast Iron
Production Conference

February 27 – 28 | Charlotte, NC

Introduction to Foundry
Environmental Compliance
March 21 – 22 | Schaumburg, IL

2023 Advanced Air Seminar May 9-10 | Schaumburg, IL

2023 Copper Alloys Workshop September 27 – 28 | Schaumburg, IL

35th EHS Conference October 3 – 5 | Chicago, IL

2023 Practical Cupola Workshop October 10 – 11 | Cadillac, MI

2023 Additive Manufacturing ConferenceNovember 7 – 8 | Dearborn, MI

Foundries adopt **Industry 4.0** practices

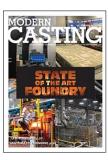
Metalcasters explored practical ways to implement smart manufacturing technologies at the 2022 Foundry Industry 4.0 Conference, as experts presented on tools for using or improving digital manufacturing processes, ranging from automation and robotics to artificial intelligence and digital twins. A follow-up conference is planned for 2024.



More than 110 attended the Foundry Industry 4.0 conference in July, hearing from experts like David Blondheim (Mercury Marine).

In June 2022, *Modern Casting* published a special supplement profiling more than a dozen companies offering smart-manufacturing products and services.

In December 2022, *Modern Casting* offered another tech-forward supplement, "Software in the Foundry 2022." It included an overview of key software categories every foundry should have, plus profiles of ERP systems, digitization of global sourcing, and other topics.



The re-branded Engineering & Smart Manufacturing Division is chaired by Greg Bray (Electric Controls & Systems Inc.) and is helping accelerate the adoption of engineering solutions and smart manufacturing technologies. The division administers an awards program, focuses

on energy efficiency, and operates a working group dedicated to standards and common languages.

The Engineering & Smart Division is also the home for a separate Industry 4.0 Committee, chaired by Jim Wenson (Sinto America). The committee, established in 2022, had its first onsite location meetings at AFS headquarters in July and provided training to committee members at the Mercury Marine foundry in Fond du Lac, Wisconsin, this past October. Contact AFS at 1-847-824-0181 if you would like to join this division.

Technical **information**

Many of the 31 Members-Only Webinars offered in 2022 were focused on key metalcasting topics. These sessions are free to members and \$250 apiece to non-members.

AFS technical staff provided technical information and referrals for members on hundreds of occasions.

International **Journal of Metalcasting**

For the fourth straight year, AFS's *International Journal of Metalcasting (IJMC)* improved its Impact Factor, growing 25% above the previous level. This follows increases of 34%, 33%, and 25% the three previous years. Impact Factor (IF) measures how much a journal has been read

and cited by other researchers. IJMC, edited by Thomas Prucha (MetalMorphasis LLC), features papers from authors around the globe and is the world's most respected metalcasting journal.

Peters-Robison **Metalcasting Library**

A total of 16,768 articles are available in the AFS Peters-Robison Metalcasting Library. In 2022, a total of 12,987 articles were downloaded at no cost to AFS members. The library was rededicated to honor the late R.D. "Butch" Peters and the late Stephen T. Robison. Approved by the Board of Directors on Jan. 31, 2022, the re-dedication of the library was announced at CastExpo 2022 by Technical Council Chair Dave Weiss (Eck Industries). Peters was president of Brillion

Iron Works, and the original Cast Metals Institute Library was named in his honor.

Robison worked for AFS from 1995-2022. At the time of his passing, he was Chief Technical Services Officer-Emeritus. Both were strong supporters of industry education and research.

Breakthrough casting research now underway

Innovation is at the heart of the AFS mission – and at the heart of innovation is research. Currently, 15 research projects are in various stages of development:

Effects of Si in High-Cr White Cast Irons

Principal Investigators:

Richard B. Gundlach Gundlach Consulting Services

Division: Special Irons Committee,

Cast Iron Division

Steering Committee Chair:

Brian Bendig

Penticton Foundry

Effect of Ceramic Sand on Cast Iron Mechanical Properties

Principal Investigator:

Dr. Scott Giese

University of Northern Iowa

Division: Cast Iron

Steering Committee Chair:

Brandon Reneau

Caterpillar

PVD Coatings to Aid Release for Permanent Mold Castings

Principal Investigator:

Dr. Stephen Midson

Colorado School of Mines

Division: Aluminum & Light Metals

Steering Committee Chair:

Randy Oehrlein

Carley Foundry Inc.

Lost Foam Casting Molds Produced Using Additive Manufacturing

Principal Investigator:

Marshall Miller

Tesseract4D

Divisions: Lost Foam and Additive

Steering Committee Chair:

Jeff Prickett

Metals Alloys & Refractories

Lost Foam Casting Molds Produced Using Polymer FDM & SLA Additive Manufacturing

Principal Investigator:

Marshall Miller

Tesseract4D

Divisions: Lost Foam and Additive

Steering Committee Chair:

Jeff Prickett

Metals Alloys & Refractories

Dimensional Tolerance Assessment Using 3D-Printed Sand Casting Process

Principal Investigators:

Jiten Shah PDA

Tyler Nooyen

Waupaca Foundry

Division: Additive Manufacturing

Steering Committee Chair:

Jerry Thiel

University of Northern Iowa

Dynamic Testing and Analytics From Working Green Sand Systems

Principal Investigators:

Dr. Sam Ramrattan, Dr. Lee Wells. Western Michigan University

Division: Molding

Steering Committee Chair:

David Fletcher

Lodge Manufacturing

Disposable, Wireless Sensor Systems for Integration

Within Molds and Cores Principal Investigators:

Dr. Eric MacDonald

University of Texas at El Paso

Jerry Thiel

University of Northern Iowa

Division: Additive Manufacturing Steering Committee Chair:

Rich Lonardo

Defense and Energy Systems Consulting

Machinability of Solution Strengthened Ferritic Ductile Iron

Principal Investigators:

Dave Labyak and Paul Sanders Michigan Technological University

Division: Cast Iron

Steering Committee Chair:

Mark Osborne

Wabtec

Low CRI, High CSR **Coke Cupola Trials** Principal Investigators:

Steve Hav Hay Melting Solutions

Bruce Blatzer

Consultant

Division: Melting Steering Committee Chair:

Alex Croll

Waupaca Foundry

Quantifying Aluminum Casting Quality Through

H Gas — (Phase 2) Principal Investigator:

Daniel Hoefert

Eck Industries, Inc.

Division: **Aluminum and Light Metals**

Steering Committee Chair:

Adam Kopper Mercury Marine

Foundry Emissions Benchmarking Database

Principal Investigator:

Craig Schmeisser

Mad River Strategies, LLC Division: EHS

Steering Committee Chair:

Jeet Radia McWane, Inc.

Digital Active Clay Measurement in Green Sand

Principal Investigators: Dr. James Springstead, & Dr. Sam Ramrattan

Western Michigan University **Division:** Molding

Steering Committee Chair: Brian Rachwitz

Refining Austenite in Gray Irons Principal Investigator:

Jingjing Qing

Georgia Southern University

Division: Cast Iron

Steering Committee Chair:

Leonard Winardi Charlotte Pipe

Multi-Axial Measurement of Casting Wall Movement **During SGI Solidification** and Cooling In-Mold

Principal Investigator: Mingzhi Xu

TBA

Georgia Southern University

Division: Cast Iron Steering Committee Chair:

Research Partnerships

AFS collaborates on external research with partners including the American Metalcasting Consortium and the Advanced Casting Research Center. These partnerships provide additional value to the metalcasting industry.

American Metalcasting Consortium:

The American Metalcasting Consortium (AMC) is a research partnership of four metalcasting associations that promotes cast metals research and infrastructure

improvements to benefit U.S. military and Advanced Casting Research Center: defense needs. AMC is funded through the U.S. Department of Defense, Defense Logistics Agency, managed through the Advanced Technology Institute (ATI). Under the current 5-year program, AFS is directly managing two projects: one investigating the use of intelligent manufacturing to improve casting design and process optimization, and a second to enhance the AFS Casting Alloy Data Selection tool (CADS). Four new AMC projects are expected to begin in early FY 2024. AFS is providing oversight on two other projects: one investigating dispersion for nano-composites casting, and a second on cast metal-ceramic composite lattice structures for lightweight, energy absorbing and/or penetration resistant applications.

All four current AMC research projects will be presented at Metalcasting Congress 2023 and are on track for on-time completion in FY 2023.

AFS is a member of the Advanced Casting Research Center (ACRC), an industry-university research consortium focused on addressing the global foundry industry. As a member, AFS assists in oversight and selection of casting-related research. ACRC is located at the University of California, Irvine. ACRC is currently managing an AFS-recommended program on innovative heat treating for aluminum alloys.

Applied Research Award

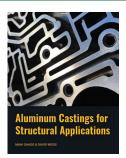
The new Applied Research Award page highlights the projects which have received this honor, which recognizes practical research that directly addresses pressing technical problems faced by metalcasting facilities. A nomination form is available online.

AFS technical books



Authors Ted Schorn and Jiten Shah with their books at the AFS Store at CastExpo 2023.

AFS publishes work by subject-matter experts throughout the metalcasting industry, many of whom are also longtime members of the society. Ted Schorn (Enkei America Inc.) is a popular author whose last book, "Improving the Effectiveness of Visual Inspection," was published in 2018. In 2023, he will release a new title through AFS, "Process Control for Engineers."



Aluminum Castings for Structural Applications

A new book written by Mahi Sahoo (Suraja Consulting Inc.) and David Weiss (Eck Industries Inc.), Aluminum Castings for Structural Applications, goes beyond the basics to explore the factors that affect mechanical properties of structural aluminum castings, the influence of alloying elements, solidification characteristics. heat treatment, and other advanced concepts. The book, released in April, is an ideal resource for design, casting, or manufacturing engineers, as well as metallurgists and other aluminum foundry staff, plus students.



AFS Transactions, Vol. 130

The latest discoveries in metalcasting research are highlighted in AFS Transactions, Vol. 130. The new volume includes 41 papers encompassing metalcasting topics including additive manufacturing, aluminum and light metals, cast iron, steel, engineering and smart manufacturing, environmental health and safety, and molding methods and materials.

Shop AFS technical publications and resources in the AFS Store: www.afsinc.org/store

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Training for excellence in metalcasting

More than 170 unique companies turned to the AFS Institute for world-class metalcasting training in 2022. A total of 452 students attended the 40 live classes, held either in person or via Zoom. That brings the number of individuals trained by the AFS Institute since 1957 to nearly 91,000.

Three brand-new courses were introduced: Fundamentals of SPC and Process Capability taught by Ted Schorn (Enkei America); Leading Successful Projects taught by the Lake Forest Graduate School of Management; and Legal Strategy for Business taught by Northwestern University's Kellogg School of Management.

A total of 3,209 Foundry E-Learning modules were successfully completed by individuals, all purchased either through a plant-wide subscription or a la carte.

In-Plant Training is once again a popular and highly effective training option, with AFS Institute instructors teaching any of the 38 Institute classroom courses in companies' own plants. Contact us or visit www.afsinc.org/training for details.



Students developed new skills during Aluminum Metallurgy 201, a Live Online Institute course offered in November.



Graduates of the Institute's Introduction to Metalcasting course posed for a photo at AFS HQ in June.

Management Training & **Development Summit**

Above: Group shot of the attendees of the 2023 Management Training & Development Summit. In May 2022, AFS hosted a conference for metalcasting managers and human resources professionals in Schaumburg, Illinois. The 2022 Management Training and Development Summit included sessions on labor and employment law; leading during times of change; worklife balance; and diversity, equity, and inclusion.

Speakers included Ken Chapman (Problem Solving Institute) whose popular initiative on safety and environmental compliance, The Leaders Code, has been utilized in more than 260 foundries and 500 organizations in North America, the United Kingdom, and Australia.

Another unique session at the summit focused on "second chance hiring" by using different sources of talent to fill job openings. The panel, "Think Outside of the Box to Staff Your Organization," featured people who lead organizations designed to match open-minded business leaders with reformed individuals looking for an opportunity to contribute to team success, as well as foundry leaders who have embraced this talent source as part of their people strategy.

The next Management Training and Development Summit is planned for July 12-14, 2023, in Schaumburg, Illinois.

Wage & salary surveys

Setting appropriate compensation levels is more important than ever. AFS issued the much-awaited 2022 wage and salary surveys for both plant-floor and management positions. By popular demand, eight new job titles were added: CFO, controls/automation engineer, robotics engineer, IT/solution architect, IT manager, receptionist, AP clerk, and supply chain/logistics manager. Prepared by AFS and Profit Planning Group, these reports retail for \$1,000 each for non-members, but participating Corporate Members are provided with complimentary reports, and all other members receive a discount.



AFS Foundry Hourly Wage & Benefits Report

People, talent, & leadership

The HR Division partnered with the Copper Division at CastExpo 2022 for "Conversations in Columbus about People, Talent, and Leadership." Members of both groups shared their perspectives in a back-and-forth discussion about the challenges facing today's workforce—and today's recruiters. The conversation centered on issues such as shifts in job candidate behaviors since the onset of

COVID, how companies are working to improve retention rates, unique marketing opportunities to attract new talent, and how organizations can develop leaders from within. The moderator was HR consultant Joey Leonard (TalentCast HR), along with panelists Todd Ray (Decatur Foundry), Brian Lewis (Foundry Educational Foundation), and Amanda Groves (Lodge Mfg. Co.).

Attracting **future foundry workers**

Students at CastExpo 2022

Getting students excited about careers in metalcasting takes many forms. AFS provided nearly 150 AFS student members — and their FEF key professors — with free Education Passes at CastExpo 2022. The value of these Education Passes totaled more than \$100,000.

Students enjoyed visiting exhibits and attending educational sessions, as well as the IJMC-FEF Student Research Competition and the Steel Founders Society of America's Cast in Steel event, of which AFS was Presenting Sponsor. Key professors told AFS that CastExpo was in many cases one of the highlights of students' academic semester. AFS will extend complimentary Education Passes at Metalcasting Congress 2023, as well.

IJMC/FEF Student Research Competition

It's not every day that undergrads can earn publication credits in an international scientific research journal. But the IJMC/FEF Student Research Competition, which debuted in 2022, does just that. Students presented their cutting-edge research in metalcasting or molten metal processing before a panel of experts. The highest-ranked projects are featured in the International Journal of Metalcasting. and thousands of dollars in scholarships were awarded to the winners in partnership with the Foundry Educational Foundation. In 2022, Caelen Johnson (Missouri S&T) took home first prize. The deadline for 2023 entries is March 17.



University of Northern Iowa students represented their school at CastExpo 2022.



Finalists in the IJMC/FEF Student Research Competition represented University of Northern Iowa, Missouri University of Science and Technology, and Virginia Tech.

Melting Point

Encouraging kids to explore careers in STEM and manufacturing is key to building a skilled workforce, so AFS publishes *Melting Point*, a magazine and website aimed at students in 5th through 9th grades. It explains the metalcasting process in simple terms and shows kids how vital castings are to everyday life. It is available to AFS chapters and members hosting outreach events.



Melting Point

Jean Bye Scholarship

A new college scholarship for women entering the metalcasting industry honors an exceptional and inspiring foundry leader. The Jean Bye AFS Women in Metalcasting Scholarship was established through a generous donation from Dotson Iron Castings (Mankato, Minnesota). Bye, now retired, was CEO of this AFS Corporate Member and is a Past President of AFS. In 2022, the inaugural award was presented to Maria Alverio (Carley Foundry).

Also launched in 2022 was the Sinto-AFS Future Leaders of Metalcasting Education Scholarship, funded with a donation from AFS Corporate Member SintoKogio Ltd. The scholarship provides up-and-coming leaders in metalcasting with a new opportunity to support their education. The first

recipient was Hannah Blansett (Univ. of



Hannah Blansett (University of Alabama-Birmingham) received the first Sinto-AFS Future Leaders of Metalcasting Scholarship from AFS Board Member Michael Halsband (Sinto America) in October 2022.

Student Chapters

AFS welcomed South Dakota School of Mines and Technology and Purdue Polytechnic New Albany as new AFS student chapters in 2022, bringing the total to 44 student chapters. Run by students under the guidance of faculty and industrial advisors, members further their metalcasting skills. Student Chapter Leader Virtual Meet-ups are held on a regular basis.

Upon graduation, student members of AFS also receive a free year of individual membership upon graduation.

Manufacturing Day

Members have tools for Manufacturing Day programming such as videos, presentations and information sheets thanks to AFS.



Foundry **Leadership Summit**

The 2022 Foundry Leadership Summit focused on key issues facing metalcasters. Ari Fleischer, former presidential press secretary, previewed the 2022 elections. Gordon Chang, Fox News contributor and expert on China policy, provided insight into the nuances of the U.S.-China relationship. Economist Mark Vitner offered an insightful analysis of the changing economy, and author Jim Davidson delivered a stirring and motivational presentation about "Everest Resilience," among other speakers.

AFS Past President Mike Lenahan (Badger Mining) far right, led a panel discussion on the outlook for the foundry industry.

Above: AFS Vice President Brad Mueller (Charlotte Pipe & Foundry) spoke at the Foundry Leadership Summit.

Another panel discussion on how to make the most of AFS memberships was chaired by AFS Vice President Brad Muller (Charlotte Pipe & Foundry)(top view). Offering insight were panelist Pete Satre (Allied Mineral Products), Emily Shedlarski (Simpson Technologies), Jay Morrison (Carpenter Brothers) and Tom Bye (Dotson Iron Castings).



Foundry Leadership Summit attendees enjoyed the welcome reception at the historic Greenbrier Resort.



Industry executives talked about "Opportunities and Challenges Facing Metalcasters in 2023 and Beyond" at the Foundry Leadership Summit. Pictured, from left: Mike Lenahan (Badger Mining), Jason McGowan (D&L Foundry), Tyson Twait (Dotson Iron Castings), Rob Johnson (Waupaca Foundry), and Ryan Burke (Osco Industries).

2023 Foundry **Leadership Summit**

September 18 – 20, 2023 Asheville, NC

CastExpo 2022: **Future Directions** in **Metalcasting**

The bright future of metalcasting was on display at CastExpo 2022, which had a successful four-day run in Columbus in April. Over 4,800 metalcasters, suppliers, buyers, and students explored exhibits, tested equipment, and took part in more than 100 sessions on casting production and management. In total, 288 exhibitors participated.

Popular events included the Annual Banquet, keynotes by Commander D. Michael Abrashoff and world-renowned pollster Scott Rasmussen, the Hoyt Memorial Lecture from retired Dotson Iron Castings CEO Jean Bye, plus an iron vs. aluminum "debate." We thank our sponsors, exhibitors, presenters, attendees, student volunteers and the AFS staff team for making CastExpo a grand success.

Volunteer Recognition **Luncheon debuts**

One of the CastExpo highlights was the Volunteer Recognition Luncheon. This new event, which combined the former Division Luncheon and President's Business Meeting, recognized outgoing and incoming AFS officers, recipients of Scientific Merit and Meritorious Service awards, volunteer leaders, and winners of the 2022 AFS/Casting Source Casting Competition. It was emceed by then-AFS President Mike Lenahan (Badger Mining Co.).



AFS outgoing president Mike Lenahan (Badger Mining) delivered the ceremonial rammer to 2022-2023 president Adam San Solo (Neenah Enterprises) at the CastExpo 2022 Annual Banquet.

Metalcasting Congress 2023: **Spark Success**

Tickets and exhibits are now on sale for Metalcasting Congress 2023, April 25-27 at the Huntington Convention Center in Cleveland, Ohio. To reserve an exhibit on the show floor as an industry supplier or North American metalcaster, or to register, visit **metalcastingcongress.org**. AFS members receive preferred pricing on exhibits and admission.



Mike Abrashoff, author of It's Your Ship: Management Techniques from the Best Damn Ship in the Navy, gave a keynote address on leadership during CastExpo 2022.



Attendees walked the floor at CastExpo 2022.



An overflow audience members listened to "The Great Debate" during CastExpo 2022.

Women in **Metalcasting**

WIM is an AFS Shared Interest Group that in 2022 again provided a platform for women in the industry to network, mentor, and share ideas. WIM hosts webinars, group events, and programming at Metalcasting Congress. The group presented the WIM Award for Excellence in 2022 to Lizeth Medina-Balliet (Neenah Foundry). Learn more or sign up for the WIM quarterly newsletter at www.afsinc.org/women-metalcasting.



Women in Metalcasting Award for Excellence recipient Lizeth Medina-Balliet presented during a 2022 WIM webinar.

Future Leaders of Metalcasting

It was a dynamic year for future leaders. In 2022, FLM hosted a meeting at Lodge Mfg. in Tennessee, where they heard from expert speakers, networked among one another, toured the Lodge plant and museum, and participated in the first-ever presentation of the Sinto-AFS Future Leaders of Metalcasting award sponsored by SintoKogio Ltd.. Hannah Blansett (University of Alabama-Birmingham) received the first award presented by AFS Board Member Michael Halsband (Sinto America).

To learn more about the Future Leaders of Metalcasting, visit **www.afsinc.org/FLM**.



Future Leaders of Metalcasting Meeting attendees enjoyed the welcome reception in Chattanooga. TN.

Employment Law Update

AFS and the law firm of Fisher Phillips teamed up in May to initiate a new Corporate Member benefit, Employment Law Update. These reports cover topics such as safety regulations, labor laws, record-keeping requirements, pending employment legislation, and more. Readership has grown every month.



October Employment Law Update

Tools for business planning & forecasting

AFS issued the *Metalcasting Forecast* & *Trends* in January and again in July 2022. Drawing on government data, AFS surveys, economic forecasts, and other insight, the documents help companies plan for the future. They are complimentary to AFS Corporate Members and available for purchase to others.

Chad Moutray, Ph.D. (National Association of Manufacturers), spoke at a January 2022 AFS Members-Only Webinar on the year's economic outlook for manufacturing. Moutray, chief economist for the

National Association of Manufacturers, providing perspectives on labor participation rates, manufacturing demand, wages, supply chain constraints, and more.

The AFS Quarterly Metalcasting Survey, first established in 2020, provides quarterly insight into economic outlook for North America's metalcasters. All foundries are eligible to participate in the survey every three months.

AFS Committees: Where hundreds achieve company & personal goals

With nearly 60 committees, task groups, and shared interest groups, committee participation is one of the key benefits of AFS membership. About 1,000 member volunteers gain updated knowledge, discuss solutions to industry challenges, network with peers, bringing new perspectives back to their workplaces, and give back to our industry.



Chris Norch (Denison Industries), past AFS president and a member of the AFS Government Affairs Committee, was one of many AFS members who hosted members of Congress in 2022, in this case Rep. Fallon (TX-4).

Chapter events & programs

What a difference two years makes! Whereas most AFS chapters held virtual-only functions in 2020, by 2022, most chapters presented a strong slate of in-person, hybrid and/or virtual programs. This delivers technical expertise, business insights, and networking to members at the local level. Every member can connect with peers in their region by joining one of 39 AFS Chapters. To find the chapter closest to you, or to view upcoming events, visit www.afsinc.org/regional-chapters.

The Chapter Officers Conference was held in Schaumburg in August 2022, with lively presentations and discussions. The 2023 Chapter Officers Conference will be held virtually on August 15, 2023 to allow for maximum chapter participation.



Some attendees of the 2022 Chapter Officers Conference stopped for a photo after breakfast at AFS HQ.



Students from several universities competed in a student casting contest at the 2022 AFS Wisconsin Regional, hosted by the AFS Wisconsin, State Line (IL/WI) and Northeastern Wisconsin chapters.



Adam San Solo (Neenah Enterprises) presented "The AFS National Vision" at the 2022 Southeast Regional on March 3. San Solo was AFS Vice President at the time, taking over as President the next month at CastExpo 2022. The Southeast Regional, presented by the AFS Piedmont, Birmingham, and Tennessee Chapters, is one of several regional conferences offered by AFS chapters each year, drawing metalcasters and suppliers from throughout their areas for learning and business opportunities.

Want to know what's happening with AFS Chapters in your area, or when you're on the road for business? You can find upcoming events and meeting notices on the AFS Chapter Calendar.

It's updated regularly at www.afsinc.org/chapter-events.



National awards for service & excellence

Above:

Winners of the Green Foundry,

Innovation and Insight, Division Service,

and Gary E. Mosher Outstanding New

Member awards gathered for a photo at

the 2022 EHS Conference in October.

To recognize service and excellence, AFS provides five awards at the national level, and many more at the division, committee and chapter levels. For the year ahead, the entry period for national awards will be May 1 through June 30, 2023.

The 2022 national award winners were as follows:

William H. McFadden Gold Medal

Thomas E. Prucha

President, MetalMorphasis LLC, and Editor-in-Chief, International Journal of Metalcasting

Award of Scientific Merit

Sairam Ravi Project Manager University of Northern Iowa

James H. Michel

Manager-Technical Services and UNS Administrator (retired) Copper Development Association

AFS Service Citation

Scott Giese Professor University of Northern Iowa

Mike Bartol

Vice President Metalcasting—Americas American Colloid Company, Division of Minerals Technologies Inc.

William J. Grede Award

Jiten Shah President PDA

Keating Founders Freedom Award

Jeet Radia Senior Vice President McWane

Thomas Teske Retired - EJ

Award recipients dating back to the early 1900s are available in the History section of **afsInc.org.**

Foundry safety & environmental stewardship

Safety is priority #1 for metalcasters. In 2022, AFS and its committees provided EHS guidance and resources to members at every step.

Casting Corporation.

Among the most popular AFS webinars each year are those covering EHS topics

A report from the AFS Safety & Health Committee released in 2022 details how metalcasters can prevent and manage heat-related illness. "Foundry Approaches to Control the Heat Exposure of Workers" was used to author ASTM Standard E3279 – 21, Standard Guide for Managing Heat Stress and Heat Strain in Foundries, published in May 2021. The report is free for AFS members.



Foundry Approaches to Control the Heat Exposure of Workers

Green Foundry Awards that recognize achievements in sustainable industry, innovation, and community engagement were presented to Benton Foundry and Waupaca Foundry.

The Innovation and Insight Award that highlights the ways the industry is making plants safer, healthier, or more ergonomically friendly places to work went to Pier Foundry.

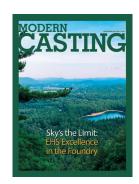
AFS Metalcasting Safe Year Awards for one year, or consecutive years, without a lost-time incident or fatality were presented to EJ, JR Hoe, and Wisconsin Precision Casting Corporation.

Among the most popular AFS webinars each year are those covering EHS topics. In 2022, webinars tackled topics including "How to Prepare for an OSHA Inspection", "OSHA Begins Process to Revise Its Standards for Occupational Exposure to Lead," and "OSHA's Increased Focus on Heat-Related Hazards and What It Means for U.S. Foundries."

A pair of AFS conferences in October 2022 covered introductory and advanced EHS topics for metalcasters. The Safety 101 Seminar delivered programming for people new to EHS roles in foundries, and those who handle safety as one of several workplace responsibilities. The annual EHS Conference followed on Oct. 4-6. Topics ranged from waste heat management, heat stress, and fall protection to pioneers in beneficial use, sustainability programs, and environmental justice. Both conferences took place in Milwaukee.

In 2022, the EHS Division highlighted its resources to help Corporate Members set up beneficial use programs. These resources include a 58-page step-bystep guide for determining which waste streams are reusable and economically feasible. The manual is free to all members in the AFS Peters-Robison Metalcasting Library.

A special supplement from *Modern Casting* put the focus on EHS. "Sky's the
Limit: EHS Excellence in the Foundry,"
released in February 2022, spotlighted
exemplary Corporate Members whose
EHS efforts earned them industry accolades, among other stories.



Modern Casting special supplement Sky's the Limit: EHS Excellence in the Foundry.



EHS Division Chair Craig Schmeisser (Mad River Strategies LLC), right, presented the 2022 EHS Service Award to Dan Plant (Metal Technologies Inc.).

Telling the positive story of the foundry industry

AFS in 2022 publicized 16 different resources that are ideal for explaining the importance of the foundry industry, as well as its career opportunities, to target audiences.

These audiences include educators and students, local officials, legislators and regulators, parts buyers and designers, as well as metalcasters themselves.

Among the resources is the most comprehensive economic impact analysis of the foundry industry in decades, available at **www.afsinc.org/impact.** Thank you for helping AFS to tell this important story!



Advocacy for our industry

Throughout 2022, AFS aggressively advanced the interests of American metalcasters on policy issues. These efforts were led by Government Affairs Chair Eric Meyers (Oil City Iron Works) and Vice Chair Alan Brink (Spring City Electrical): the EHS Division, led by Chair

Craig Schmeisser (Mad River Strategies, LLC) and Vice Chair Brent Charlton (Metal Technologies); and our team of Washington-based policy advocates.

Supply-chain policy victories

Over the past two years, metalcasters have confronted unprecedented supply chain challenges.

As part of the solution, AFS teamed up with an industry coalition to pass Ocean Shipping Reform legislation. The new law, enacted in June, improves the government's ability to probe and remedy unreasonable demurrage and other unwarranted charges. AFS members and staff pressed for this priority during in-person meetings and letters.

AFS joined with an unprecedented 460 other associations and companies in urging adoption of a resolution in Washington designed to head off a rail strike. With several key unions balking at adopting a negotiated labor accord, a work stoppage would have potentially devastating effects on a slowing, fragile economy. AFS and the business coalition helped derail several tax-hike schemes.

Foundry tours for lawmakers

AFS members in large numbers are welcoming elected officials at their foundries to help them understand the importance of modern metalcasting. AFS will help any member foundry prepare for making the most of the public official's visit.



Congresswoman Mariannette
Miller-Meeks (R-IA) toured Amsted
Rail Company's Keokuk, Iowa,
freight car and wheel manufacturing
facility, one of many AFS-Member
foundry tours.

Military **procurement**

AFS participated at the TACOM (Tank-Automotive & Armaments Command)
Casting Summit at the Rock Island
Arsenal in April. The summit was to
discuss DOD investments in casting technology, assist DOD in becoming a better
partner to industry, and discuss solutions

to supply-chain issues related to castings. Several AFS member companies also participated.

Buy American for taxpayer-funded projects

AFS continues to successfully advocate for Buy American requirements for many taxpayer-funded projects involving castings. The AFS-backed infrastructure investment law adopted in December 2021 will help rebuild much of the nation's infrastructure over the next several years, with meaningful business opportunities for America's metalcasters. AFS

weighed-in with comments in support of the Federal Acquisition Regulation (FAR) Council's proposal to revise and increase the domestic content threshold under the Buy American Act for federal contracts, which went into effect on October 25, 2022, for end products, including castings.

OSHA **policy**

AFS provided OSHA with guidance about how it should consider modern metalcasting processes as it adopts new heat-stress rules. Also, a version of an AFS report was used to author ASTM Standard E3279 – 21, Standard Guide for Managing Heat Stress and Heat Strain in Foundries.

OSHA and California are planning changes to existing rules concerning workplace lead exposure. AFS formed a working group, conducted an industry survey, and filed comments on the advanced

notice of proposed rulemaking. This issue presents major implications for many foundries and AFS will continue to advance our industry's perspective and file comments in 2023 on Cal/OSHA's lead rule proposal, which may be the basis of the federal update.

Environmental **quality**

The metalcasting industry is committed to superior environmental quality and annually invest tens of millions of dollars to meet applicable environmental requirements, and in many cases implementing beyond-compliance practices. AFS has a long history of working cooperatively with regulators and other stakeholders on the environmental challenges facing the metalcasting industry and identifying the best ways to address them to promote sound economic growth and protect the environment and human health.

Durable and recyclable metal castings play a critical role in key industrial sectors, supporting global energy and climate solutions. AFS committees develop policies and guidance for members and provide meaningful input to policymakers on regulatory compliance matters impacting issues such as environmental controls, climate change, and environmental justice.

Tax policy

AFS is fighting for its members on several tax issues. AFS was joined by a business coalition in beating back proposals to saddle small businesses with higher tax rates. AFS is underscoring the need to retain the 2017 tax reforms, which have enabled many metalcasters to invest in their businesses, raise wages, and grow.

AFS is urging Congress to protect the ability of U.S. metalcasters and its suppliers to deduct 100% of their R&D expenses in the same year by delaying or

eliminating the amortization requirement. For the first time in nearly 70 years, companies must now amortize or deduct R&D expenses over a period of years, while China offers a super deduction allowing their manufacturers to deduct 200% of their R&D expenses. AFS seeks to extend or make permanent the 20% pass-through deduction (set to expire in 2025), and bonus depreciation for qualified business purchases (which phases down by 2027).

Combating unfair **trade practices**

China has repeatedly violated its commitments under the World Trade Organization while at the same time strengthening its position in critical materials needed for advanced manufacturing. AFS addressed trade challenges on a number of levels.

In AFS member testimony, J.B. Brown (BCI Solutions) highlighted the importance of castings and the need for reliable access to rare earth materials to the U.S.-China Economic and Security Review Commission.

AFS also arranged for China policy expert Gordon Chang to address the Foundry Leadership Summit in September and engaged an expert speaker on strategic materials from the Woodrow Wilson Institute to brief AFS members on needed actions and reforms. AFS is continuing to represent metalcasters on this issue.



Gordon Chang, an expert on U.S.-China relations, addressed the Foundry Leadership Summit in September.

Government **Affairs Fly-In**

AFS members returned to Capitol Hill in 2022 to personally make the case for pro-metalcasting public policies. AFS draws on personal stories from law-makers' constituents, in addition to the AFS-executed Economic Impact Analysis for metalcasting industry statistics, when engaging in this direct advocacy.

AFS is asking all foundries and suppliers to send at least one representative to the 2023 Fly-In, which is June 20-21, 2023, in Washington, D.C.



Members of the AFS Texas delegation met with Sen. John Cornyn (R) during the 2022 Fly-In on Capitol Hill.

2023 Government **Affairs Fly-In**

June 20 – 21, 2023 Washington, D.C.

Join AFS members to support and defend the metalcasting industry on Capitol Hill, June 20-21. AFS makes it easy: materials are provided and congressional appointments are made. This year the home base will be the recently renovated Hotel Washington, conveniently located just a block from Pennsylvania Avenue. Help AFS stand up for the metalcasting industry!

Honoring **Congressional allies**

Continuing a long tradition, AFS in 2022 honored three more lawmakers with the MIC (Metalcasting Industry Champion) Award. Recipients included Sen. John Cornyn (R-TX), Rep. Mike Gallagher (R-WI), and Rep. Mike Bost (R-IL). These

awards are reserved for lawmakers who consistently make pro-metalcasting votes on key issues.



J.B. Brown, CEO of AFS Corporate Member BCI Solutions, spoke to Fox News' Steve Doocy about the challenges facing metalcasters in 2022.



Buyer & designer **educational track**

CastExpo 2022 featured a track of six sessions specially tailored to the unique needs of casting buyers, designers, and specifiers. As the major North American industry event for the metalcasting supply chain for the 2022-2024 period, CastExpo attracted many parts purchasers seeking information and relationships with foundries. The sessions focused on topics such as the best way to reshore

previously offshored parts, how to select the correct alloy for the job, and other issues that foundry customers should understand. The Casting Designers & Buyers Track was offered on the show floor in the *Casting Source* Theater. As in 2022, *Casting Source* will again present the Casting Designers and Buyers Track at Metalcasting Congress 2023 in Cleveland.

Casting Source magazine

Published by AFS, the *Casting Source Directory* is both an annual printed publication and an online search tool that engages 12,000 casting buyers and designers. These two resources allow supply chain decision-makers to filter and sort foundries by alloy, process, casting size, and location, giving them a list of potential partners to source their next casting project. Listings in the *Casting Source Directory* are available to all AFS Corporate Member metalcasters.

Foundry employees also have their own source for identifying the right supplier — **SupplierMarketplace.net**, which features

dozens of foundry products and services offered by hundreds of AFS Corporate Member suppliers.



2022 Casting of the Year

The annual competition draws attention to the value of North American castings to designers and buyers worldwide, highlighting conversions from other processes, reshoring from overseas, and other opportunities for OEMs to successfully integrate castings into their products.

The 2022 AFS/Casting Source Casting of the Year Award was presented to Waupaca Foundry for its 12-in, bucket assembly for the backhoe of a compact utility tractor. The conversion from a welded steel fabrication, which involved reshoring back to the U.S., is the first cast iron bucket of its kind on the market.

The Casting of the Year competition, judged by a slate of metalcasting experts. is one of the industry's foremost recognitions of casting excellence.



Newcomer of the Year

Wire Stripper Block

Dakota Foundry Inc. (Webster, South Dakota) Material: Grav iron Class 35. **Process:** 3D-printed sand molding.

Weight: 2,000 lbs. Dimensions: 48 x 17 in.

Application: Equipment that makes

different gauges of wire



Outstanding Achievement Charger Housing

Meridian Lightweight Technologies (Strathrov. Ontario. Canada) Material: AZ91 magnesium.

Process: High-pressure diecasting.

Weight: 2.35 kg.

Dimensions: 60 x 30 x 9 cm. **Application:** Electric vehicle battery

charger housing.



Best Example of a Casting Conversion

Hydrogen Fuel Cell Enclosure

Tooling & Equipment International (Livonia, Michigan)

Material: A356-T6.

Process: Low pressure precision sand.

Weight: 78.9 lbs.

Dimensions: 33.5 x 22.8 x 11.8 in. Application: Main enclosure for fuel cell

used in power generation.



Top Frame

Process: V-process. Weight: 6.7 lbs.



Outstanding Achievement

Pump Housing Casting

Material: Aluminum C355-T6.

Process: Investment casting. Weight: 7.5 lbs.

Dimensions: $13 \times 7 \times 7$ in. Application: Aerospace/defense.



Outstanding Achievement

TPI Arcade (Arcade, New York)

Material: Aluminum.

Dimensions: 21 x 13.5 x 2.9 in. **Application:** Mammography

equipment



O'Fallon Casting (O'Fallon, Missouri)

2023 Major **AFS Events**

2023 Cast Iron

Production Conference

Charlotte, NC February 27 – 28, 2023

Introduction To Foundry **Environmental Compliance**

Schaumburg, IL March 21 - 22, 2023

Metalcasting Congress 2023

Cleveland, OH April 25 – 27, 2023

2023 Advanced Air Seminar

Schaumburg, IL May 9 - 10,2023

2023 Government

Affairs Fly-In

Washington, D.C. June 20 – 21, 2023

2023 Management Training

and Development Summit

Schaumburg, IL July 12 - 14,2023

2023 Foundry

Leadership Summit

Asheville, NC September 18 – 20, 2023

2023 Copper

Alloys Workshop

Schaumburg, IL September 27 – 28, 2023

35th Environmental, Health

and Safety Conference

Chicago, IL October 3 - 5, 2023

2023 Practical

Cupola Workshop

Cadillac, MI

October 10 - 11,2023

2023 Additive

Manufacturing Conference

Dearborn, MI

November 7 - 8,2023

Visit www.afsinc.org/conferences

for more information on all upcoming AFS Conferences.



Eighteen committee tours

of foundries



31 new webinars

presented in 2022

Individual Members



Corporate **Members**

13 AFS divisions

44 AFS committees

> 14 Task groups

One Working group

Two Shared interest groups



3,209

Foundry E-Learning modules completed in 2022



Articles in the AFS Peters-Robison **Metalcasting** Library



12,987+

Downloads from the AFS Peters-Robison *Metalcasting* in 2022

Number of students who attended Institute classes in 2022



Casting of the Year

Material: Ductile iron.

Weight: 65 lbs.

12-in. Bucket Assembly

Waupaca Foundry Plants 4 and 5 (Mari-

nette. Wisconsin. and Tell City. Indiana)

Process: Green sand vertical molding.

Dimensions: 18 x 11.8 x 11.8 in.

Application: Compact utility tractor

Mission **statement**

The mission of the American Foundry Society is to advance the success of its members and the metalcasting industry through advocacy, education, and innovation.

Vision **statement**

AFS will be recognized worldwide by industry stakeholders as the leading voice and resource on technical, management, and advocacy priorities pertaining to the metalcasting industry.

Volunteer **leadership**

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Vice Chair:

Adam Kopper Mercury Marine

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Secretary-elect:

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Chair:

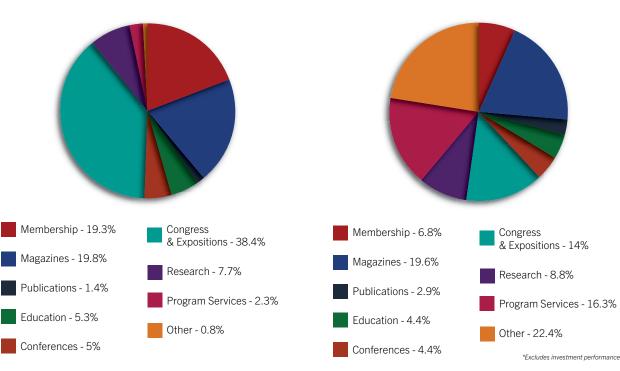
Tom Bye

Dotson Iron Castings

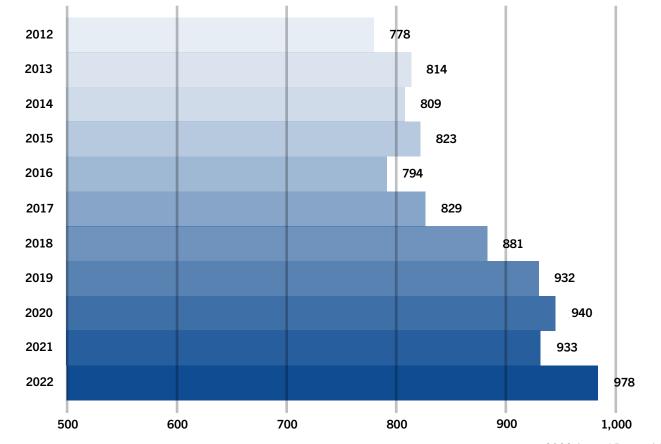
2021 - 2022 AFS and the Institute Financials







2012 - 2022 **AFS Corporate Memberships**



2022 - 2023 Officers & Board Members



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Vice President -Infrastructure

> Neenah **Enterprises**



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Brad Muller

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2nd Vice President

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Immediate Past President

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Doug Kurkul

CEO

American Foundry Society

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John Lancaster

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Boyd, Jr. Managing Membe Goldens' Foundry & Machine Co.



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Spring City Electrical Mfg. Co.

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Nestel

Rochester Metals Corn

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